In its regulations and order implementing the 1996 Act,[19] the FCC determined that these pricing provisions should be carried out by setting prices on the basis of each element's TELRIC, along with a reasonable allocation of forward-looking common costs.

In Phase 1 of the First Elements Proceeding, we described TELRIC in the context of other costing methods.[20] We noted that TELRIC was a term coined by the FCC to describe the version it was adopting of the more familiar total service long-run incremental cost (TSLRIC) method. An analysis of TSLRIC amounts to an estimation of long-run incremental cost (LRIC) where the increment of service that is studied is the total demand for the service. LRIC, in turn, measures incremental cost (i.e., the cost of producing an additional quantity of a good or service) over a period long enough so that all of the firm's costs become variable or avoidable.

All of the foregoing costing methods are forward-looking, taking account of the costs to be incurred in the future, rather of than embedded, historical costs. In defining the TELRIC method, the FCC added the specification that costs "should be measured based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent [local exchange carrier's] wire centers."[21] This is the so-called "scorched node" premise, which takes as a given only the location of the incumbent local exchange carrier's (ILEC's) existing wire centers and otherwise contemplates a network designed in accordance with the most efficient technology available, regardless of the technology actually deployed.

After the start of the First Proceeding, the FCC's TELRIC rules were stayed and ultimately vacated by the Eighth

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[19] Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket Nos. 96-98 and 95-105, First Report and Order (rel. August 8, 1996)(the Local Competition Order).

[20] Phase 1 Opinion, pp. 9-15.

[21] 47 C.F.R. §51.505(b)(1).

Circuit Court of Appeals on the grounds that the FCC had exceeded its authority in adopting them.[22] The case nonetheless proceeded to decision on a TELRIC basis, inasmuch as all parties' studies had been based on TELRIC; even Verizon, which objected to TELRIC and reserved its rights to submit other studies if TELRIC were overturned, had submitted a TELRIC study in view of the FCC's regulations. We noted that "TELRIC is certainly a reasonable approach to use, though just as certainly not the only one; and, as [Verizon] recognizes, as a practical matter there is no alternative other than the very unattractive one of temporary rates while a lengthy new case is litigated."[23]

The United States Supreme Court eventually reversed the Eighth Circuit on the issue of FCC authority, reinstated the rules, and remanded for consideration of the substantive challenges that had been raised to TELRIC pricing.[24] That remand eventuated in an Eighth Circuit decision that again overturned portions of the FCC's rules, including the TELRIC definition in §51.505(b)(1), cited above, this time on the grounds that it was inconsistent with the provisions of the 1996 Act requiring UNE prices to be based on the cost of providing the elements. In the Eighth Circuit's judgment, "Congress was dealing with reality, not fantasizing about what might be," and basing prices on the hypothetical network of TELRIC violated Congress's intent that the costs to be taken into account are those of "providing the actual facilities and equipment that will be used by the competitor (and not some state of the art presently available technology ideally configured but neither deployed by the ILEC nor to be used by the competitor."[25] The Eighth Circuit added, however, that it did not reject the use of forward-looking costs in the setting of UNE rates; and it declined to reach the claim that TELRIC rates would amount to an unconstitutional taking of the ILEC's property, regarding that claim as unripe for decision

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[22] Iowa Utilities Bd. v. FCC, 120 F.3d 753 (8th Cir. 1997).

[23] Phase 1 Opinion, p. 15.

[24] AT&T Corp. v. Iowa Utilities Bd., 525 U.S. 366 (1999).

[25] Iowa Utilities Bd. v. FCC, 219 F.3d 744 (8th Cir. 2000).

until actual rates could be evaluated. The Supreme Court has agreed to review the Eighth Circuit's determination, and the TELRIC rule at issue remains in effect pending that review.

Following the Eighth Circuit's decision last summer, Verizon moved to stay this proceeding in view of the uncertainty over the costing standard that would ultimately apply; CLECs generally opposed the motion. As recounted above, the Judge denied the motion and its later renewal, and the proceeding went forward on a TELRIC basis. In its brief to the Judge, Verizon continued to stress the uncertainty associated with the TELRIC standard pending Supreme Court review and urged deferral of any decision, but the Judge saw no more need to recommend deferral than he did earlier to cut off the litigation. He noted that "the TELRIC rules remain in force, and the proceeding has gone forward on a TELRIC basis; the Supreme Court's decision cannot be predicted and is unlikely to be rendered before the end of the year at the earliest; and the issues in the case are ripe for decision. That decisional process should go forward."[26]

On exceptions, Verizon again urges that decision be deferred pending Supreme Court review of the TELRIC standard. It cites the uncertainty and administrative costs associated with frequent rate changes--as would be needed if the Supreme Court rejected TELRIC soon after a TELRIC-based decision were reached here--and it sees the impossibility of predicting the Supreme Court's ultimate decision as warrant for deferring a decision, not for going forward. It adds that the Supreme Court's decision is no longer as far in the future as it was, noting that oral argument in the TELRIC case was scheduled to be held in early October.[27] If new rates nevertheless were to be set now, Verizon would make them temporary until new rates were set in accordance with the Supreme Court's mandate, seeing "no

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[26] R.D., p. 10.

[27] Argument was held as scheduled; the Court's decision is pending.

other way to avoid injustice if the Supreme Court ultimately rules that the current TELRIC standard is unlawful."[28]

Several CLECs object to any delay in our decision, stressing the substantial reduction in UNE rates that would follow from adoption of the Judge's recommendations and asserting a need to accomplish that reduction promptly. They object as well to making rates temporary until they are set in accordance with a Supreme Court decision. WorldCom, for example, charges that Verizon is seeking delay so that it may continue to overcharge for UNEs, and it argues that the Supreme Court will likely not decide the case until early 2002, at which time a lengthy remand to the FCC could ensue. It notes that Verizon objected to delaying a New Jersey UNE proceeding pending Supreme Court review, attributing Verizon's interest in prompt decision there to the fact that it has not yet received §271 approval in that state. The CLEC Alliance notes that regardless of the Eighth Circuit's decision, we retain a statutory responsibility to ensure that rates are just and reasonable, and it argues that the recommended decision shows that they are not. It adds, among other things, that there is a strong public interest in prompt decision, pointing to the FCC's emphasis, in its New York §271 decision, on our active review of Verizon's UNE rates.

In a motion filed August 23, 2001, Verizon renews its request that we postpone decision in the case until after the Supreme Court rules. In the alternative, it would have us reopen the record to take account of a statement in the FCC's reply brief to the Supreme Court. According to Verizon, the statement endorses a TELRIC rate of return that takes greater account of competitive and regulatory risks than did the Judge. Various CLECs respond that Verizon overstates the significance and misrepresents the import of the FCC's statement and is merely seeking, once again, to delay the proceeding.

We see no more need than did the Judge to withhold or postpone decision in this case pending Supreme Court action.

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[28] Verizon's Brief on Exceptions, p. 10.

TELRIC remains the standard that must be applied; we cannot say when the Supreme Court will reach its decision, what that decision will be, or when the ensuing dust will settle; the Eighth Circuit, though rejecting aspects of TELRIC, did not reject forward-looking pricing in principle; and the parties are entitled to a decision on the basis of the comprehensive record that has been compiled. Rates need not be held temporary, given that TELRIC is now the law whatever may be its future fate; and there is no need to reopen the record, as Verizon requests in its recent motion. The statement in the FCC brief cited by Verizon simply explicates the TELRIC standard as it has been in place from the start and applied in this proceeding. It embodies no new policy pronouncement (and, as some CLECs suggest, could not properly do so given its nature and context). Verizon's August 23 motion is denied, and we proceed to decision on the substantive issues before us.

One further aspect of the TELRIC background should be briefly noted. Section 254 of the 1996 Act directed the FCC to establish a universal service support system to ensure the delivery of affordable telecommunications services. In the ensuing proceeding (the Universal Service Proceeding), the FCC ultimately adopted a forward-looking cost model to be used in determining an eligible carrier's level of universal service support. The FCC adopted its cost model in two stages: in the first stage, it adopted the Model Platform, which contains the fixed aspects of the model[29]; in the second stage, it selected the input values for the Model Platform.[30] The presentations and analysis in the Universal Service Proceeding can sometimes be instructive; but it is important to keep in mind the FCC's caution that its model "was developed for the purpose of determining federal universal service support, and it may not be

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[29] Federal-State Joint Board on Universal Service et al., CC Docket Nos. 96-45, 97-160, Fifth Report and Order (rel. October 28, 1998).

[30] Id., Tenth Report and Order, (rel. November 2, 1999).

appropriate to use nationwide values for other purposes, such as determining prices for unbundled network elements."[31]

OVERVIEW OF COST STUDIES, RECOMMENDED DECISION, AND EXCEPTIONS

Cost Studies and Recommended Decision

Two comprehensive analyses of UNE costs and prices were submitted in the proceeding: Verizon's own cost studies, and the HAI 5.2-NY Model (HAI Model) jointly sponsored by AT&T and WorldCom. To state the matter most generally,[32] Verizon's studies began with the investment associated with each network element, determined by identifying the pertinent material cost, applying a utilization factor to develop a material cost per unit, and applying investment loadings to capture certain additional costs. It then used annual cost factors (ACFs)--representing the calculated relationships between expenses and investments, other expenses, or total revenues--to translate investments into monthly costs. In a separate process, Verizon developed nonrecurring charges by estimating relevant labor costs and applying certain ACFs to them. Verizon's study relies, in large part, on its actual historical data and estimates by its engineers, adjusted in a manner intended to reflect TELRIC assumptions. The HAI Model, meanwhile, develops UNE costs in a bottom-up manner, by modeling the construction of a telecommunications network on the basis of demand quantities, network component prices, and costs and expenses.

The parties offered arguments, among many others, based on the inherent reasonableness of the results produced by each study, but the Judge rejected them, finding that "if the costs are reasonably and fairly calculated, the price chips should be allowed to fall where they may."[33] He went on to find

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[31] Id., ¶32.

[32] For a more comprehensive description of the two analyses, see R.D., pp. 20-25. Additional background on aspects of Verizon's study at issue on exceptions is provided below, where pertinent.

[33] R.D., p. 32.

that the HAI Model continued to suffer from many of the same flaws that we identified in its predecessor Hatfield Model submitted in the First Elements Proceeding, and he used the Verizon study, which was sounder in concept despite its need for substantial adjustment, as the starting point for analysis. He summed up his conclusion by noting that "as a matter of theory, HAI is a ponderous tool that is too far removed from the reality of Verizon's circumstances to be used when there is an alternative better grounded in real data. As a practical matter, Verizon's study lends itself to adjustment in a manner that appears able to produce a sound result."[34]

Most of the recommended decision, accordingly, was devoted to adjusting Verizon's studies. The resulting UNE prices were, in general, well below not only Verizon's proposals but also the prices currently in effect. The adjustments will be discussed in this order only to the extent raised on exceptions; for purposes of this overview, we note only the determination on the vigorously argued issue of switching costs. The Judge there found that the parties had argued to a stalemate on the question of what vendor discounts to impute in estimating switching investment and recommended use of a surrogate method, not requiring selection of a discount figure, to determine those costs. Verizon and its opponents alike except to both the surrogate method in principle and to its manner of implementation.

Verizon's Exceptions

As noted, Verizon continues to advocate, as its primary position, deferral of any determination in this proceeding until after the Supreme Court has decided the fate of TELRIC; until that time, its existing UNE rates, set in the First Elements Proceeding, would remain in force. Beyond that, it sees "fundamental errors" in the recommended decision and alleges that adoption of the Judge's recommended rates would violate the statutory requirement that rates be cost-based and

[34] R.D., p. 34.

"would effect an uncompensated taking of Verizon's property for the benefit of competitors, would violate federal law by requiring Verizon to provide UNEs at below-cost rates, and would disserve the Commission's pro-competitive policies by further deterring the development of facilities-based competition."[35] It expresses special concern about substantial recommended reductions in its proposed rates related to the UNE Platform[36] (UNE-P), noting, for example, that the non-recurring provisioning charge was reduced by over 70% and contending that the overall effect of the UNE-P price changes would be to reduce revenues very substantially. More specifically, it excepts to recommended reductions of about two-thirds in local switch usage rates, which it attributes to a series of errors regarding switching costs.

Recognizing that the Judge recommended use of its own studies rather than the HAI Model as the basis for analysis, Verizon criticizes the recommended adjustments to its study on a variety of grounds, both conceptual and computational. It objects in particular to a series of adjustments based on the Judge's finding that it failed to meet its burden of proof, charging that they lack any record basis, fail to credit unopposed evidence submitted by Verizon, and impose a burden impossible to meet. It contends as well that some adjustments would adversely affect service if Verizon's network were in fact designed in the manner contemplated by the adjustment. Finally, it contends that the recommended rates would contravene the public policy favoring the development of facilities-based competition, asserting that they "will provide CLECs with a direct subsidy from Verizon in the form of resale at fire-sale rates, that will eliminate any incentive for the development of competitive networks."[37]

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[35] Verizon's Brief on Exceptions, p. 1.

[36] The UNE Platform refers to an arrangement under which a CLEC orders, and Verizon provides, all the unbundled elements that make up a customer's local service.

[37] Verizon's Brief on Exceptions, p. 6.

CLECs' and Other Parties' Exceptions

Parties other than Verizon offer no overarching critique of the recommended decision, and none of them excepts to the Judge's rejection of the HAI Model. They generally support the recommended decision, but propose various specific modifications, urging us to "finish the job"[38] of moving all the way to properly TELRIC-based costing. Some CLECs characterize the recommended decision as confirming their view that current UNE rates are seriously overstated and point as well to lower UNE rates in other jurisdictions. They defend the Judge's use of burden of proof considerations, a matter requiring more detailed treatment before we turn to specific issues.

BURDEN OF PROOF

As noted, Verizon objects to a series of recommendations in which the Judge cited its failure to have met its burden of proof. Contending that adjustments were made on that basis even where Verizon had supported its presentation with substantial evidence and no party had submitted contrary evidence, it charges that "merely reciting the 'burden of proof' mantra, as the RD frequently does, cannot justify these disallowances and reductions."[39] It cites a series of Appellate Division cases finding error where an administrative agency refused to accept uncontradicted evidence presented by a party, even where the party had the burden of proof; and it contends the Judge's finding, for example, that its engineering judgment was insufficient evidence left it unable to meet the burden of proof that he imposed.

In response, several CLECs challenge the premise that Verizon's evidence often went unopposed, citing the testimony they submitted. Verizon may disagree with their evidence, they say, but that does not mean it does not exist. Beyond that, they dispute Verizon's legal argument, distinguishing the cases it cites and arguing that they are unrelated to the work of this

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[38] AT&T's Brief on exceptions, p. 2.

[39] Verizon's Brief on Exceptions, p. 3.

agency. WorldCom notes, in contrast, the courts' recognition of our independent judgment and expertise in ratemaking, in which we are not confined to the presentations made by the parties. AT&T points to our endorsement, in the Phase 2 Opinion, of the Judge's suggestion that the ILEC in a UNE case bears a burden of proof higher than that of the utility in a traditional rate case.

Whether a party has borne its burden of proof can only be decided on an issue-by-issue basis, and one may disagree in some instances with the Judge's assessment of the record before him. But as a general matter, we are satisfied that the Judge used burden of proof as an analytical tool, not a mantra. Verizon's evidence, in many cases, is not so uncontroverted as Verizon would lead us to believe, and the CLECs are right to refer to our ability to use our independent expertise in assessing the state of the record and whether the party bearing the burden of proof has borne it. The cases cited by Verizon relate, for the most part, to questions of objective fact rather than of expert judgment to be applied to a range of reasonable alternatives, and they are distinguishable on that and other grounds.

It is worth recalling, in this regard, why the utility (or the ILEC) has the burden of proof. The Judge put it as follows:

> The utility's data and experience are a good source of information on what can be expected in the future, but the utility has a clear self-interest in erring on the side of high cost forecasts. For both reasons, it bears the burden of proof, and the regulator must ensure that only proven costs are allowed. In so doing, the regulator should avoid groundless speculation or what Verizon characterizes as "the Panglossian perspective of the CLECs, who seem to believe that all difficulties will magically dissolve in a sufficiently 'forward looking'

> environment."[40] But where a range of estimates is suggested by the record, regulators have always made reasonable adjustments that impel a utility to seek efficiencies, just as it would be impelled to do by a competitive market.[41]

It is also worth recalling how the burden of proof is administered, something pertinent to a number of issues. In the Phase 2 Recommended Decision, the Judge explained that in a traditional rate case,

> the regulated utility has the ultimate burden of proving, by clear and competent evidence, that its proposed rates, and the costs on which they are based, are reasonable; but a rebuttable premise of regularity attaches to activities conducted in the normal course of business, and the utility's initial presentation need not contain, for example, evidence that other ways of conducted all such activities were considered. But if another party discharges the burden of going forward with evidence showing that a claimed cost is unreasonable, then the utility has to persuasively rebut that evidence in order for the cost to be allowed.[42]

The Judge added, however, that because "the activities being reviewed [in a UNE case] are in some respects novel, the traditional premise of regularity is weakened, and it would be reasonable to require more of an affirmative showing that the [ILEC] proceeded reasonably."[43] These observations were and remain valid.

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[40] Verizon's Reply Brief, p. 75 (footnote in original).

[41] R.D., p. 87.

[42] Phase 2 R.D., p. 26.

[43] Id.

With these general comments as background, we turn to the specific issues presented on exceptions. Following the sequence used by both Verizon and AT&T in their briefs, we start with the important and hotly contested issue of switching costs.

SWITCHING COSTS

Introduction

The Judge recommended substantial reductions in Verizon's rates for unbundled switching. They result not only from his recommended treatment of switch material costs already noted, but also from his adjustments to installation costs and to the allocation of costs between usage and non-usage sensitive elements. Verizon argues, overall, that "the recommended reductions in local switching rates . . . have the most significant impact on Verizon's finances. Imposing this crushing financial burden on Verizon would be utterly unwarranted: There is simply no lawful basis for the adjustments to Verizon's proposed switching rates that are recommended in the RD."[44] Other parties argue, conversely, that the Judge did not go far enough in reducing these rates. WorldCom, for example, notes that the recommended rate would reduce the statewide average switching cost of approximately $0.003 per minute of use (MOU) to approximately $0.001 per MOU and would reduce the per-month per-line unbundled switching cost for CLECs providing service via the UNE platform from approximately $7.35 to approximately $2.74. It urges, however, that we go further and reduce the rates to what it sees as proper TELRIC levels, including a statewide average of $0.0008 per MOU.

Material Investment

1. Background and Recommended Decision

This issue has its roots in Phase 1 of the First Elements Proceeding, and its history, fully recounted by the Judge, provides important background here. In Phase 1, we

[44] Verizon's Brief on Exceptions, p. 10.

expressed a lack of confidence in the sharply conflicting cost estimates suggested by the parties' different studies, and we set rates on the basis of an analysis by our Staff. In so doing, we noted, among other things, that in making an adjustment to capture the downward trend in switching costs, we "did not take account . . . of the atypically large discounts received by [Verizon] from its [switch] vendors after 1994 in connection with a major switch replacement program."[45] That decision rested, in large part, on Verizon's attribution of those deep discounts to the switches' having been purchased as part of its program to replace analog switches with digital. Verizon argued that vendors were willing to offer unusually large discounts in connection with such replacement programs (to encourage upgrades that create a market for new software), but that the replacement program was nearly complete and the discounts therefore were unlikely to continue or recur. On rehearing, we rejected Verizon's broadbased critique of the Staff method for setting switching costs as well as WorldCom's claim that the price reduction factor was too low, finding that WorldCom had "offered no new reason for rejecting the fully explained premise that the unusually large discounts associated with analog-to-digital conversion would not be replicated."[46]

Later, in Phase 3 of the First Proceeding, evidence was presented suggesting that the deep discounts might, in fact, be available for all purchases of new switches, not only large-scale replacement programs. Several CLEC parties moved to reopen Phase 1 to redetermine switch costs in light of the newly adduced evidence; Verizon objected on a variety of grounds. We were unimpressed by Verizon's belittling, as "inadvertent misstatement," of its own assertion that the higher discounts were uniquely associated with the analog-to-digital replacements and by its suggestion that the new information lacked significance because of the manner in which switches are

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[45] Phase 1 Opinion, p. 85, n. 1. See also a similar statement in Attachment C to that opinion, Schedule 2, page 1 of 3.

[46] Phase 1 Rehearing Opinion, p. 40.

purchased. We nevertheless denied the motion to reopen, citing the risks of selective adjustment and adding that the new evidence, even if borne out, could not generate a simple arithmetic correction to our Phase 1 calculations. We went on to note as well the likely desirability of reviewing UNE rates in general before too long, and we therefore stated our intention to institute the present proceeding. Finally, in view of the uncertainties associated with the newly adduced evidence, we left switching rates temporary, subject to future refund or reparation, even though all other UNE rates set in the First Elements Proceeding have become permanent.

In the present case, the parties have disputed both the qualitative issue of whether to posit new switch discounts or the lower "growth" discounts (i.e., the discounts associated with adding capacity to existing switches) that would otherwise be available, and the quantitative issue of how each type of discount should be estimated. After reviewing the arguments in some detail, the Judge reiterated his view, first stated in his Phase 3 recommended decision, that, as a matter of theory, growth discounts were not applicable in a TELRIC study, which contemplated instantaneous installation of a new network. He nevertheless went on to hold that several factors precluded application of that theoretical result here and now. He noted, first, that "application of a purely new-switch discount, on the premise that a hypothetical new network designed to serve the full increment of demand was dropped into place instantaneously, could be problematic under the Eighth Circuit's decision" noted above.[47] The Judge recognized that we are not subject to the Eighth Circuit's direct authority (and that its decision in any event had been stayed), but he pointed out as well that the decision had been relied on by United States District Court for the Northern District of New York[48] in its decision in a case growing out of the First Elements Proceeding and other actions.

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[47] R.D., p. 132.

[48] MCI Telecommunications Corp. v. New York Telephone Company, No. 97-CV-1600, (N.D.N.Y., March 7, 2001).

The Northern District said, in light of the Eighth Circuit's decision, that "price determinations made on forward-looking cost calculations cannot be based on the forward-looking costs of an 'idealized network,' but must be based on the incremental costs that an incumbent local service provider actually incurs or will incur."[49] Judge Linsider suggested that statement "calls into question the propriety of an exclusively new-switch discount assumption premised on an instantaneously installed hypothetical network."[50]

Perhaps more important than the legal issue, in the Judge's view, was the factual one of ascertaining what a new-switch discount would be in the hypothetical situation of an instantaneously installed new system. The Judge credited Verizon's argument that the existing new-switch discount was set partly in contemplation of additional sales to which only the growth discount would apply, and he reasoned that the new-switch discount would differ from its current level in the hypothetical situation in which no growth-discount sales were anticipated. On the other hand, he continued, discounts are negotiated in light of the particular purchases contemplated, and "it is entirely possible that the prospect of . . . an extensive series of purchases [associated with installation of an entire network, even over time rather than instantaneously] could have generated discounts substantially higher than those under the existing contracts, *and a forward-looking analysis must take account of* that prospect."[51] In light of all of these factors, the Judge concluded that

> this is an issue on which the parties have fought hard and reached a stalemate: each has shown the other's position to be untenable. Regardless of the decision ultimately to be reached on the FCC's rule, this record simply establishes no "right" level of discount to use--in part, as noted, because the very act of assuming a switch

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[49] Id., slip opinion p. 25.

[50] R.D., p. 132.

[51] R.D., p. 133.

> purchase pattern would affect the data on the record regarding the level of the respective discounts.[52] Discounts will depend on a host of factors, including the contracts negotiated between vendor and purchaser, and we have no reason to believe that Verizon's existing, complex contracts, relied on by both sides as the basis for the radically different discounts they advocated, would, in fact, read the same had they been negotiated in the various contexts that TELRIC or other forms of long-run forward-looking costing might lead us to posit.[53]

Having reached that conclusion, the Judge went on to estimate switching costs on the basis of a surrogate analysis that used as its parameters the per-line switching costs estimated on the one hand by Verizon and the other hand by AT&T/WorldCom and looked as well to various estimates that had been presented to the FCC by the FCC's staff and a majority of the state members of an FCC/State Joint Board. Taking account of all of those factors, he recommended an estimate of per-line switching costs of $105, somewhat below the $111 arithmetic mid-point of the parameters. He invited the parties to convene a settlement conference at which they might stipulate to some other number that both sides could accept; neither party responded to the invitation.

On exceptions, parties challenge both the Judge's decision not to estimate a discount and the manner in which he conducted his surrogate analysis.

2. Estimating a Discount

Alleging that there is "no reasoned basis in the record"[54] for a decision that splits the difference between the

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[52] The difficulty is analogous to those posed by situations, known in both physics and the social sciences, in which outcomes are influenced by the mere fact of observation. (Footnote in original.)

[53] R.D., p. 133.

[54] Verizon's Brief on Exceptions, p. 11.

parties, Verizon challenges the premise that the parties have argued the issue to a stalemate. It disputes AT&T's contention that a forward-looking construct implies a one-time purchase of new switches, citing the FCC's statement that TELRIC-based rates must recover "the incremental costs that incumbents actually expect to incur in making network elements available to new entrants."[55] Pointing to precedent in the First Elements Proceeding as well as the Northern District's decision, it contends that the proper price to use is "the material price Verizon will actually pay, incrementally, in the foreseeable future, under in-place vendor contracts for the particular equipment being costed."[56] The discount associated with such purchases, it continues, is the growth discount, for digital switches are already deployed in Verizon's network and will never be replaced with new digital switches, inasmuch as the next generation of switching equipment will be available by the time existing switches are to be replaced. The existing installations will only grow, and, for that purpose, the growth discount is applicable. Verizon also notes, as did the Judge, that the new-switch discount would be different in a context in which no growth purchases were contemplated. It adds that a new-switch-only premise would require installing excess capacity to allow for growth and a higher depreciation rate to recognized more frequent switch replacements, and might increase switch prices by creating demand in excess of supply. WorldCom dismisses those arguments as red herrings that introduce assumptions inconsistent with TELRIC.

AT&T, meanwhile, renews its argument that the new-switch discount should be used. It sees no basis for treating switching costs differently from the other network components, all of which are presumed by the TELRIC construct to be part of an instantaneously installed new system and are, nevertheless, priced on the basis of currently available vendor prices. It urges use of a $51 per-line switch material investment--the

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[55] Local Competition Order, ¶685.

[56] Verizon's Brief on Exceptions, p. 12.

figure generated by its restatement of Verizon's cost study on the basis of what it takes to be available new switch discounts--and it suggests that the next generation of switching referred to by Verizon will likely be even cheaper.

WorldCom likewise argues that TELRIC necessarily assumes total reconstruction of the network through new rather than growth switches. It cites the FCC's decision to that effect in the Universal Service Tenth Report and Order and quotes at length from a decision by United States District Court for the District of Delaware endorsing the use of new switch discounts.[57] WorldCom argues that the Delaware District decision is entitled to greater weight than that of the Northern District, inasmuch as the latter was based on the erroneous evidence on switching discounts adduced in Phase 1 of the First Elements Proceeding. WorldCom points as well to the Judge's statement that use of new-switch discounts is valid in theory, contends that the recommended decision assumed an instantaneously installed hypothetical network throughout, and argues that there was no reason to depart from that assumption with regard to switching costs. It disputes the Judge's concern that the new switch discount might be different in a hypothetical situation that failed to contemplate subsequent growth purchases, contending that TELRIC requires just such an assumption.

The Attorney General also urges use of fully discounted switch prices, arguing that the Northern District's statement cited by the Judge constituted dicta--inasmuch as the rates there under review were not based on the cost of the "idealized network" questioned by the court--and that the Northern District had relied on an Eighth Circuit decision that was stayed pending appeal and inapplicable in New York. In any event, the Attorney General contends, the Northern District decision did not preclude use of new-switch discounts. Beyond that, the Attorney General cites the progress made in New York

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[57] Bell Atlantic-Delaware, Inc. v. McMahon, 80 F. Supp. 2nd 218 (D. Del. 2000).

toward competitive telephone markets and argues that "UNE rates that allow Verizon to recover excess monopoly costs would not be just or reasonable in a regulatory regime moving toward competitive markets."[58] In addition, the Attorney General urges us to take into consideration the over-supply of telephone switch manufacturing capacity and the growing availabilty of surplus switches from financially troubled telecommunications companies.

In its reply, Verizon reiterates its view that the FCC's Universal Service decision is inapposite, given the FCC's admonition that the proxy model used there should not be used to price UNEs and its rejection, in the §271 proceeding, of the premise that UNE prices must be based purely on new-switch discounts. Recognizing the conflict between the Northern District decision and that of the Delaware District, it urges assigning greater weight to the former, which is more local, more recent, and more cogent. That the Northern District may have relied on flawed Phase 1 evidence is of no import, since the court's pertinent statement involves not an analysis of the evidence but the principle that we should be guided by what the ILEC will actually pay.

The arguments on exceptions add little to those that led the recommended decision, in Verizon's characterization, to throw up its hands.[59] But it is not throwing up one's hands to recognize that a particular line of inquiry shows a great likelihood of being unproductive and to seek an alternative means of achieving a fair result. That is what the Phase 1 Staff analysis of switching costs sought to do in the face of parties' estimates so far apart as to call both into question, and that is what the recommended decision sought to do here.

Verizon correctly notes that we never had occasion to rule on the Judge's observation, in his Phase 3 recommended decision, that growth discounts are not applicable in a TELRIC

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[58] Attorney General's Brief on Exceptions, p. 6.

[59] Verizon's Brief on Exceptions, p. 10.

study.[60] In the present recommended decision, the Judge has backed off from that observation, and he was right to do so. TELRIC contemplates a new, state-of-the-art network--including, for example, all-fiber feeder, without regard to what is now in place--but it does not necessarily follow that the new network is purchased and installed in a single transaction. And even if it did, any attempt to establish the vendor discounts that would apply in that transaction would be a hopeless exercise in speculation, if not "fantasy." The parties have argued long and hard over what discounts flow from Verizon's existing vendor contracts in their complexity; for the reasons described by the Judge, there is no way to arrive at a reasonable estimate of what those discounts would be under hypothetical contracts growing out of unknown transactions. Beyond that, Verizon has identified additional types of costs that could be expected to be incurred if the complete network were installed all at once, and we lack any reasonable estimate of the amounts of those costs.

To rule out exclusive use of the new switch discount, of course, does not mean that exclusive reliance on the growth discount is proper. For one thing, it has been clear since Phase 3 that relatively deep new-switch discounts are not limited to full-scale switch replacements, and there is no basis for agreeing with Verizon that incremental replacement of the system over time would entail growth discounts only. Beyond that, the Judge correctly noted here as well the difficulties that attend any effort to estimate the actual discounts that would be available: "It is entirely possible that the prospect of such an extensive series of purchases could have generated discounts substantially higher than those under the existing contracts, and a forward-looking analysis must take account of that prospect."[61]

Having determined that the discount to be applied cannot be estimated directly from the existing contracts, we

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[60] Verizon's Reply Brief on Exceptions, pp. 2-3, n. 3.

[61] R.D., p. 133.

might attempt to somehow estimate the discount indirectly, such as by melding new-switch and growth-switch discounts in an effort to capture the real forward-looking cost, independent of vendors' marketing strategies. Alternatively, we can bypass any effort to determine the discount and proceed to estimate the per-line switching costs themselves through some surrogate means, as the Judge did. The latter process appears preferable, for there is no reason to believe that an indirectly estimated discount level will be more accurate than an indirectly estimated cost figure; and the intermediate step of indirectly estimating a discount will not enhance the ultimate result. The goal of the effort then becomes to find a surrogate means of estimating a switch cost that is reasonable, fair, and grounded in the record as a whole, and that is what the Judge sought to do. We therefore turn to the specifics of his method, to determine whether the parties' exceptions warrant any adjustments.

3. Surrogate Calculation

Both sides challenge the specifics of the Judge's surrogate method for estimating per line switching costs. Verizon objects to his having taken account of the FCC's conclusions in its Universal Service Tenth Report and Order, noting the FCC's statement that the Universal Service proxy model was not appropriate for UNE costing; that the FCC had stated, in its New York §271 proceeding, that the inclusion of growth discounts did not violate TELRIC; and that Verizon's data on actual costs substantially exceeded the FCC's cost estimates. It also alleges an error in computations underlying the recommended decision's statement that the FCC's Model's per-line cost was $95; correcting that error (to reflect the fact that switching nodes in Zone 2 are not remotes but, rather, a cluster of one host and three remotes) produces a figure of $100.65.

Other parties offer adjustments that would reduce the outcome of the surrogate analysis. AT&T contends, first, that the lower parameter of the range identified by the Judge should be not the $95 HAI input figure but a $51 figure set forth in

AT&T's June 2000 restatement of Verizon's cost study to take account of available new switch discounts as adduced on the record of this case. Applying the algorithm it sees as implicit in the Judge's analysis (i.e., a downward adjustment of 5.4% applied to the midpoint between the parameters) produces a statewide average switching material investment of $84 per line rather than the recommended decision's $105 per-line figure. In addition, AT&T asserts that while Verizon's $128 per-line figure (used by the Judge as the upper parameter) reflects material investment only, the FCC-based $95 per-line figure used as his lower parameter is a fully installed price, and the comparable Verizon figure (using the installation cost factor allowed by the recommended decision, discussed below) would be $178. Again applying the algorithm implicit in the Judge's analysis, AT&T calculates a fully installed switching cost of $129 per line, which would obviate any separate allowance for installation costs and result in switching usage and digital line port rates that are about 26% and 18% below the levels calculated in the recommended decision.[62] WorldCom likewise contends that the lower parameter should be $51 rather than $95. It points as well to a filing by Ameritech-Illinois showing switching costs below those recommended by the Judge and to still lower rates approved in Michigan.

Z-Tel, which does not object strongly to the surrogate approach in principle, also notes that the Judge's parameters improperly compare a materials-only figure with a fully loaded one and suggests that the lower parameter should be reduced from $95 to $73 per line by removing installation costs computed on the basis of the recommended decision's factor. It also urges recognition of AT&T's material investment figure of $51 per line as well as the possibility that Verizon's $128 figure might be subject to change on the basis of the recommended decision's treatment of cost of capital. Taking account of these data, it suggest the record supports a per-line switching investment of $75-$85.

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[62] AT&T's Brief on Exceptions, p. 13.

Verizon responds, first, that the $51 figure computed by AT&T in its rebuttal testimony should be disregarded, for it was based on an error in information supplied by a switch vendor that was later corrected. Use of the corrected vendor data produces a per-line price, reflecting the new switch discount, of $101, higher than the $95 lower bound used by the Judge.[63] It likewise would disregard the FCC's $95 figure; it agrees that the figure includes loadings and sees the difficulty of accounting for that as an added reason to disregard the figure. It disputes Z-Tel's suggestion that the $105 figure should be adjusted to reflect the recommended cost of capital, noting the figure is an investment unaffected by cost of capital. Finally, it objects to reliance on rates set in other jurisdictions, where circumstances and methods of analysis may differ in ways unknown.

Several of the parties' specific comments are clearly sound and need to be taken into account. Verizon's increase of the Judge's $95 lower parameter to $100.65 is correct, as is the CLECs' observation that that figure is fully loaded and cannot be used as the lower parameter when the higher parameter is not fully loaded. (That observation would apply equally to the corrected $100.65 figure.) Other comments are in error; the CLECs' proposal to use $51 as the lower parameter is clearly misplaced, for the reasons identified by Verizon. Indeed, the errors responsible for the $51 figure reinforce the conclusion that attempting to estimate a proper discount is an exercise in futility.

If a figure of $100.65 less loadings were used as the lower parameter, the midpoint between the parameters would be below the figure identified by the Judge. But there is, of course, nothing magical about the midpoint; and we would in any event have little confidence in a result much below the estimates of $110 and $113 identified by the FCC staff and the majority of state members of the Joint Board, for it is

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[63] Verizon's Reply Brief on Exceptions, p. 7; the calculations said to support the $101 figure are set forth in a proprietary attachment to that brief.

significant that two disinterested entities arrived at such close results. When all is said and done, we are satisfied that the Judge reached a reasonable result on the basis of the record in this proceeding, and we deny the exceptions.[64]

EF&I Factor

As already explained, estimating the cost of a fully installed switch requires application to the switch material cost of an "engineer, furnish, and install" (EF&I) factor. Verizon used a factor of 43.5%. AT&T contended that factor was overstated, far exceeding those used by other telephone companies, and it proposed a 25% factor, comprising what it calculated to be Verizon's own average 15% factor for vendor engineering and installation, plus 10%, representing the average of the 8%-12% range of other companies' telephone company engineering and installation. The Judge found that Verizon had shown no reason other than its own actual experience for adopting its higher-than-average figure for telephone company engineering and installation. He held AT&T's 10% figure to be unsupported and unduly low and recommended, as fair and reasonable, a telephone company engineering and installation factor of 15%. Adding that to the 15% for vendor engineering and installation, he recommended an overall EF&I factor of 30%.[65]

Verizon excepts, seeing no basis for substantially reducing its actual costs other than "the 'burden of proof' shibboleth."[66] It asserts the data cited by AT&T relate to rural telephone companies presumably having smaller central offices

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[64] It is worth noting, moreover, that while we have not used an analysis of discounts to reach the $105 per-line cost, the record with respect to discounts would in no way preclude that result.

[65] The Judge noted that the 30% factor was to be computed with reference to Verizon's claimed switching material costs; the resulting dollar amount, applied to the reduced material costs recommended by the Judge, would imply a factor higher than 30%.

[66] Verizon's Brief on Exceptions, p. 17.

and therefore lower installation costs than Verizon as well as higher per-line material costs (because the discounts enjoyed by Verizon are unavailable to them) and a corresponding lower installation cost percentage. Disputing the Judge's suggestion that the differences between companies cut both ways, given the greater likelihood that Verizon can enjoy economies of scale, Verizon contends that, "in effect, the RD rejected probative, unchallenged, reliable data on Verizon's actual switch EF&I costs, preferring instead to rely on hearsay evidence as to the installation costs purportedly experienced by a sample of unidentified rural companies that clearly are not comparable to Verizon. The premise that this reliance on less relevant, less well-documented data makes the estimated EF&I factor more 'forward looking' is simply perverse."[67]

AT&T responds that Verizon's denial of the record basis for the Judge's adjustment would have us disregard the evidence on which the Judge relied. It contends as well that Verizon relies too heavily on costs associated with its existing network--such as the increased costs associated with multi-story buildings--thereby violating the TELRIC premise of a new network incorporating buildings efficiently designed to accommodate forward-looking switches.

Although actual costs are not the end point of a TELRIC analysis, the evidence presented by AT&T--which Verizon has credibly distinguished from its own circumstances--does not support as substantial an adjustment to Verizon's costs as the Judge applied. On this record, a more conservative adjustment is warranted, and Verizon's EF&I factor will be reduced only to 40%. To that extent, Verizon's exception is granted.[68]

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[67] Id., pp. 16-17 (emphasis in original).

[68] In its reply brief on exceptions (p. 20), AT&T endorses Verizon's method for applying the Judge's adjustment, which develops a new EF&I factor applied against the Judge's recommended investment instead of applying the Judge's 30% factor to Verizon's original investment. The method appears reasonable and should be used with respect to the 40% factor we are adopting here.

Switching Cost Allocation and Rate Design

1. Usage- and Non-Usage-Sensitive Costs

Switching costs comprise traffic-sensitive and non-traffic-sensitive components; the latter do not vary with usage. Verizon proposed to recover non-traffic-sensitive costs through flat-rated port charges (for both line ports and trunk ports) and to recover traffic-sensitive costs through minutes-of-use (MOU) switch usage charges. Several other parties, primarily Z-Tel, asserted that Verizon incurs no usage-sensitive costs in providing unbundled local switching to itself or competitors and switching costs therefore should be recovered entirely on a non-usage-sensitive basis, through monthly recurring port charges.

The Judge concluded that while Verizon had argued successfully against totally non-usage-sensitive rates, Z-Tel had made a strong case for recovering a greater portion of switching costs on a non-usage-sensitive basis, inasmuch as a UNE user purchased all of the switching capacity, including features and functions associated with any given port. More specifically, the Judge noted that in the First Elements Proceeding, a Verizon witness had presented an analysis of switching costs that would warrant allocating only 34% to usage. Recognizing that data may have changed since then, he recommended a rate structure that assigned no more than 40% of switching costs to usage (rather than the 64% of costs assigned to usage in Verizon's study). The Judge went on to note that though the switching costs assigned to usage were associated almost exclusively with peak busy hour usage, they could not be recovered solely through the usage rate for the peak busy hour. The only alternatives were to recover them over all usage as Verizon proposed, or through non-usage- sensitive port charges as Z-Tel proposed. He recommended recovering them over all usage, inasmuch as the record suggested that peak busy hour usage was more closely correlated with total usage than with ports.

Verizon excepts, urging use of its 36% non-usage-sensitive/64% usage-sensitive allocation. It contends it has consistently treated switch port costs as non-usage-sensitive